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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,793

11/21/2005

Wim Teulings

0563-1042

2266

466

7590

04/28/2006

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EXAMINER

ISLA RODAS, RICHARD

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/533,793

Applicant(s)

TEULINGS ET AL.

Examiner

Richard Isla-Rodas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 10-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4492000 05/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore:

- The means of measuring a voltage at the terminals of a resistor as recited in claim 4, must be shown or the feature(s) canceled from the claim(s).
- The means of measuring the duty cycle of the pulse width modulated output signal, as recited in claim 5, must be shown or the features(s) cancelled from the claim(s).
- The power supply circuit as recited in claims 7, 10, 11, 12 and 13, must be shown or the feature(s) cancelled from the claim(s).
- The resistor R_m as recited in claim 4, line 3, must be shown or the feature cancelled from the claim.

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 4 is objected to because of the following informalities: It is unclear after studying the drawings, what element R_m refers to.
3. Claims 5, 6, 12 and 13 are objected to because of the following informalities: It isn't clear what the means for measuring the duty cycle of the pulse width modulated output signal are comprised or how the device is designed to perform said function. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth 35 U.S.C. 112, 6th paragraph, **and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language**. In re Fuller, 1929 C.D. 172; 388 O.G. 279.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7 and 10-13 recite limitations that lack sufficient antecedent basis in the claims:

- Claim 7, recites the limitation "the power supply circuit" in line 4.
- Claim 10, recites the limitation "probe" in line 7 and the limitation "the power supply circuit" in line 3.
- Claim 11, recites the limitation "probe" in line 7 and the limitation "the power supply circuit" in line 3.
- Claim 12, recites the limitation "probe" in line 7 and the limitation "the power supply circuit" in line 3.
- Claim 13, recites the limitation "probe" in line 7 and the limitation "the power supply circuit" in line 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by the US Patent to Lenhard (6,117,791).

In terms of claim 1, Lenhard teach in Figure 1, a device for measuring the intensity of an electric current of the compensation type, according which a magnetic

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field generated by a primary winding (1) in which the current (i1) to be measured flows is balanced by a magnetic field of opposite direction generated by a by a magnetic secondary winding (6) through which a compensating current (i2) flows, this device comprising a means (3) sensitive the field resulting from the fields of opposing directions to regulate (using element 4) said compensating current (i2) in closed loop mode, characterized in that sensitive only to the direction of said resultant field and in return controls the reversal of the direction of circulation of the compensating current (i2) in said secondary winding. It must be noted that, the means 3 (a Hall effect sensor) is lodged within the core through which the first and second coils are winded about. Therefore, the magnetic flux flowing through the core is inherently a result of the addition of the magnetic fields of opposing directions created by the first and second coils. Consequently, as recited in claim 1, the means (3) is "*sensitive to the field resulting from the addition of magnetic fields*" See column 1, lines 23-25.

As to claim 3, Lenhard teaches in column 1, lines 23-25, that the windings are formed on a common core of ferromagnetic material. It must be noted that claims, directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) *The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference.* Therefore, the recitation "presenting an appropriate hysteresis to provide a limit cycle oscillation", is not given patentable weight, since the prior (Lenhard) anticipates the structure.

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As to claim 8, It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ F.2d 1647 (1987). Therefore, "application of the device as claimed in claim 1 **to the measurement of an electric current in automotive electronics**, is not given patentable weight.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US Patent to Lenhard (6,177,791) in view of the US Patent to Berna et al. (5,734,264).

In terms of claim 2, Lenhard teaches all of the claimed elements as discussed above except for the Hall sensor being a Hall effect probe with bipolar output signal. Berna et al. teaches in Figure 1 a current sensor that detect the magnetic flux in a core using a Hall effect probe (1) with bipolar (positive and negative) output signal. It would have been obvious to one of the ordinary skill in the art, at the time of the invention, to use the teachings of Hall effect probe with bipolar output as disclosed by Berna et al. to replace the Hall effect sensor lodged in the core of the device disclosed by Lanhard with

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the Hall effect probe with bipolar output of Berna et al. in order to fit it in the air gap of the annular core through which the coils are wound (due to its small size, see column 1, line 50).

As to claim 9, Lenhard teaches in column 1, lines 23-25, that the windings are formed on a common core of ferromagnetic material. It must be noted that claims, directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) *The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference.* Therefore, the recitation "presenting an appropriate hysteresis to provide a limit cycle oscillation", is not given patentable weight, since the prior (Lenhard) anticipates the structure.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the US Patent to Lenhard (6,177,791) in view of the US Patent to Gary (4,639,665).

In terms of claim 4, Lenhard teaches all of the claimed elements as discussed above except for the resistor connected in series to the core (See Figure 1, element 7), being connected to a voltage meter. Gary teaches in Figure 1, a current meter including a resistor (23) connected in series to a secondary coil (22), characterized in that it comprises means for measuring a voltage at the terminals of the resistor (using meter 24) generated by the induced current flowing through the coil. It would have been obvious to one of the ordinary skill in the art, at the time of the invention, to use the

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teachings of Voltage meter connected to a series resistor as disclosed by Gary to include a voltage meter connected to the terminals of the series resistor (7) in the device disclosed by Lenhard in order to measure the voltage/current induced through the secondary coil.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Baxter et al. (6,914,422), Lenhard et al. (6,713,999), Baker et al. (5,477,135), Singer et al. (6, 043,641) and Weggel (6,534,967).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Isla-Rodas whose telephone number is (571) 272-5056. The examiner can normally be reached on Monday through Friday 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Isla-Rodas


VINH NGUYEN
PRIMARY EXAMINER
A.U.-2829
04/25/05